

WHAT IS CLAIMED IS:

1. A method for displaying gene expression patterns of multiple genes whose expressions change according to experiment cases, where a first axis represents the genes and a second axis represents the experiment cases, the method comprising the steps of:

designating a segment along the second axis in the expression pattern data of the multiple genes; and

clustering the expression pattern data within the designated segment along the second axis based on a predetermined reference value, repeating clustering within the same cluster in a forward or reverse direction along the second axis while changing the reference value, and displaying the results according to a predetermined display format.

2. A method for displaying gene expression pattern according to claim 1, wherein the reference value determines whether two expression patterns of different genes are identical or not.

3. A method for displaying gene expression pattern according to claim 1 or 2, wherein two or more different genes are displayed according to the predetermined display format where they have the same expression pattern at the beginning but become to have different expression patterns within the segment along the second axis.

4. A method for displaying gene expression pattern according to claim 1 or 2, wherein two or more different genes are displayed according to the predetermined display format where they have different expression patterns at the beginning but become to have the same expression pattern within the segment along the second axis.

5. A method for displaying gene expression pattern according to claim 1, wherein the experiment cases are conducted in a time

sequence.

6. A method for displaying gene expression pattern according to claim 1, wherein the experiment cases are states of individual's tissue.

7. A method for displaying gene expression pattern according to claim 1, wherein the experiment cases are species of individuals.

8. A method for displaying gene expression pattern according to claim 1, wherein the experiment cases are individual's sites.

9. A method for displaying gene expression pattern according to claim 1, wherein the experiment cases are presence and absence of an artificial condition.

10. A method for displaying gene expression pattern according to claim 1, wherein the experiment cases are a combination of time sequential experiments, states of individual's tissue, species of individuals, individual's sites, and presence and absence of an artificial condition.

11. An apparatus for analyzing gene expression patterns, which acquires, from a database, expression pattern data of multiple genes whose expressions change according to experiment cases, and which visually displays the expression patterns on a screen of a display device, where a first axis represents the genes and a second axis represents the experiment cases, the apparatus comprising:

an inputting means for designating a segment along the second axis in the expression pattern data of the multiple genes obtained from the database; and

an arithmetic unit for clustering the expression pattern data within the designated segment along the second axis based on a predetermined reference value, repeating clustering within the same cluster in a forward or reverse direction along the second axis

while changing the reference value, and displaying the results according to a predetermined display format.

12. A method for visually displaying expression patterns of multiple genes, comprising a step of displaying a round number of the cluster groups for each clustering phase taking a recognition error range in consideration, for the results of the clustering analysis of the gene expression pattern data.

13. A method for displaying expression patterns of multiple genes according to claim 12, wherein the results of the clustering analysis are displayed such that only clusters including a predetermined or greater number of the gene expression pattern data are displayed as a gene group.

14. An apparatus for displaying expression patterns of multiple genes, comprising:

a storage medium for storing expression pattern data of the genes;

an analysis processor for reading out the stored pattern data of genes for clustering analysis; and

a display processor for displaying a round number of the cluster groups for each clustering phase on a display screen taking a recognition error range in consideration, for the results of the analysis.

15. A storage medium for storing an operational program for visually displaying expression patterns of multiple genes on a display screen, wherein the stored operational program comprises a step of displaying the round number of the cluster groups for each clustering phase taking a recognition error range in consideration, for the results of the clustering analysis of the gene expression pattern data.